

HELLBERG, R.

Appl. No. To be assigned

US National Phase of PCT/SE02/02320

July 15, 2004

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.(currently amended) A composite power amplifier including a first and a second power amplifier ~~(16,18)~~ connected to an input signal over an input network and to a common load over an output network; and means in said input network for driving both power amplifiers to produce ~~(1)~~ first output current components having an amplitude that increases linearly with increasing output signal amplitude below a predetermined transition point and decreases monotonically with increasing output signal amplitude above said transition point, and ~~(2)~~ second output current components having an amplitude that increases linearly with increasing output signal amplitude both below and above said transition point.

2.(currently amended) The amplifier of claim 1, including phase shifting elements in said output network ~~(21)~~ generating different phase shifts from each power amplifier output to said common load.

3.(currently amended) The amplifier of claim 1 ~~or 2~~, including means ~~(28,38)~~ for driving both power amplifiers to produce first output current components having an amplitude that increases linearly with increasing output signal amplitude below said predetermined. transition point.

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4.(currently amended) The amplifier of claim 1-~~or~~2, including amplifiers and phase shifters (~~26,32~~) for maximizing output power.

5.(currently amended) The amplifier of claim 1-~~or~~2, including means (~~28,38~~) for maximizing power amplifier efficiency.

6.(currently amended) The amplifier of claim 1-~~or~~2, including filtering means (~~40~~) for canceling nonlinearity in the output signal.

7.(currently amended) A Chireix type composite power amplifier including a first and a second power amplifier (~~16,18~~) connected to a common load over an output network; and phase shifting elements in said output network (~~21~~) generating different phase shifts from each power amplifier output to said load, thereby eliminating the need for compensating reactances.

8.(original) The amplifier of claim 7, wherein said phase shifting elements comprise different length transmission lines.

9.(original) A method of driving a composite amplifier output network including phase shifting elements generating different phase shifts from each power amplifier

output to a common load, said method including the step of driving said output network in different operating modes in different frequency bands.

10.(currently amended) A method of driving a composite power amplifier including a first and a second power amplifier connected to an input signal over an input network and to a common load over an output network, said method including the step of driving both power amplifiers to produce ~~(1)~~ first output current components having an amplitude that increases linearly with increasing output signal amplitude below a predetermined transition point and decreases monotonically with increasing output signal amplitude above said transition point, and ~~(2)~~ second output current components having an amplitude that increases linearly with increasing output signal amplitude both below and above said transition point.

11.(original) The method of claim 10, including the step of generating different phase shifts from each power amplifier output to said common load.

12.(currently amended) The method of claim 10 ~~or 11~~, including the step of driving both power amplifiers to produce first output current components having an amplitude that increases linearly with increasing output signal amplitude below said predetermined transition point.

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13.(currently amended) The method of claim 10-~~or 11~~, including the steps of amplifying and phase shifting drive signals to said power amplifiers for maximizing output power.

14.(currently amended) The method of claim 10-~~or 11~~, including the step of adjusting drive signals to said power amplifiers for maximizing power amplifier efficiency.

15.(currently amended) The method of claim 10-~~or 11~~, including the step of filtering drive signals to said power amplifiers for canceling nonlinearity in the output signal.

16.(currently amended) The method of claim 10-~~or 11~~, including the steps of independently amplifying and phase shifting drive signals to said power amplifiers for maximizing output power; adjusting drive signals to said power amplifiers for maximizing power amplifier efficiency; and filtering drive signals to said power amplifiers for canceling nonlinearity in the output signal.

17.(currently amended) A radio terminal including a composite power amplifier, which includes a first and a second power amplifier (~~16,18~~) connected to an input signal over an input network and to a common load over an output network; and means in said

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input network for driving both power amplifiers to produce ~~(1)~~ first output current components having an amplitude that increases linearly with increasing output signal amplitude below a predetermined transition point and decreases monotonically with increasing output signal amplitude above said transition point, and ~~(2)~~ second output current components having an amplitude that increases linearly with increasing output signal amplitude both below and above said transition point.

18.(currently amended) The terminal of claim 17, including phase shifting elements in said output network ~~(21)~~ generating different phase shifts from each power amplifier output to said common load.

19.(currently amended) The terminal of claim 17-~~or 18~~, including means ~~(28,38)~~ for driving both power amplifiers to produce first output current components having an amplitude that increases linearly with increasing output signal amplitude below said predetermined transition point.

20.(currently amended) The terminal of claim 17-~~or 18~~, including amplifiers and phase shifters ~~(26,32)~~ for maximizing output power.

21.(currently amended) The terminal of claim 17-~~or 18~~, including means ~~(28,38)~~ for maximizing power amplifier efficiency.

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22.(currently amended) The terminal of claim 17-~~or 18~~, including filtering means  
(40)for canceling nonlinearity in the output signal.

23.(currently amended) A radio terminal including a Chireix type composite  
power amplifier, which includes a first and a second power amplifier (16,18)connected  
to a common load over an output network; and phase shifting elements in said output  
network (21)generating different phase shifts from each power amplifier output to said  
load, thereby eliminating the need for compensating reactances.

24.(original) The terminal of claim 23, wherein said phase shifting elements  
comprise different length transmission lines.